

Listing of Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) An information processing apparatus comprising:
 - an encoder for encoding information according to an error protecting code;
 - a modulator for modulating information from the encoder in a transmission signal; and
 - a control unit for dynamically selecting a coding rate that is to be used by the encoder, wherein the encoder comprises:
 - an input for receiving information symbols;
 - a parity symbol generator for generating parity symbols from the information symbols; and
 - an interleaving and puncturing unit that interleaves at a first variable rate the information symbols and parity symbols with a predetermined interleaving scheme for protection against burst errors in the transmission signal, the interleaving and puncturing unit puncturing the interleaved parity symbols at a second variable rate subsequent to said interleaving, puncturing being controlled dynamically by the selected coding rate;
- wherein the first variable rate of the interleaving is different than the second variable rate of the puncturing so that the interleaving and the puncturing are operatively independent of each other.

2. (Previously Presented) An information processing apparatus according to claim 1, wherein the interleaving and puncturing unit comprises an interleaving memory, the parity symbol generator outputting the parity symbols into a first input port of the interleaving memory, the modulator mapping the parity symbols to positions in modulation symbols according to the locations at which the parity symbols have been written into memory, reading and mapping being coordinated to result in interleaving of at least the parity symbols so that parity symbols and information symbols, normally associated with the same modulation symbol, are distributed over mutually separated modulation symbols, a subset of the generated and stored parity symbols being mapped to the modulation symbols, a size of the subset being controlled dynamically by the selected coding rate, the subset being defined by selecting the locations that are mapped to positions in the modulation symbols.

3. (Previously Presented) An information processing apparatus according to Claim 1, wherein the parity symbol generator comprises a first convolution encoder and a pre-encoding interleaver coupled to the input and a second convolution encoder cascaded after the pre-encoding interleaver, the interleaving and puncturing unit comprising a first post encoding interleaver, coupled to interleave the information symbols and an output of the first convolution encoder, and a second post-encoding interleaver coupled to interleave an output of the second convolution encoder, separate from the first post encoding interleaver.

4. (Currently Amended) A method of transmitting information, the method comprising:

generating parity symbols from information symbols;

interleaving the information symbols and parity symbols with a predetermined interleaving scheme that protects against burst errors at a first variable rate; and

dynamically selecting a coding rate that is to be used for encoding, puncturing the interleaved parity symbols at a second variable rate subsequent to said interleaving at a puncturing rate dependent on the dynamically selected coding rate;

wherein the first variable rate of the interleaving is different than the second variable rate of the puncturing so that the interleaving and the puncturing are operatively independent of each other.

5. (Previously Presented) A method according to Claim 4, the method comprising:

reading the parity symbols into an interleaving memory;

mapping the parity symbols into positions in modulation symbols according to the locations at which the parity symbols have been written into memory addresses used during writing and mapping defining an interleaving scheme such that related parity symbols and information symbols are distributed over separated modulation symbols, puncturing being performed by using parity symbols from selected ones of the locations, according to the dynamically selected coding rate.

6. (Currently Amended) An information processing apparatus comprising:

- a demodulator for demodulating information from a transmission signal;
- a control unit for dynamically indicating a coding rate that has been used for encoding the transmission signal;
- a de-interleaver comprising a memory, the de-interleaver writing the demodulated information into the memory according to a coding rate independent address scheme, skipping locations for parity bits that the control unit indicates to have been suppressed by puncturing; and
- an error correction unit for correcting errors in the demodulated information, the error correction unit being arranged to read the demodulated information from the memory in de-interleaved terms;

wherein interleaving occurs at a first variable rate and puncturing occurs at a second variable rate, where the first and second variable rates are different so that the interleaving and the puncturing are operatively independent of each other.

7. (Currently Amended) A method of receiving and correcting information, the method comprising:

- demodulating information from a transmission signal;
- dynamically indicating a coding rate that has been used for encoding the transmission signal;
- de-interleaving the demodulated information by writing the demodulated information into a memory according to a predetermined coding rate independent scheme,

skipping memory locations for parity bits that the control unit indicates to have been suppressed by puncturing; and

reading the demodulated information from the memory in de-interleaved terms correcting errors in the de-interleaved demodulated information;

wherein interleaving occurs at a first variable rate and puncturing occurs at a second variable rate, where the first and second variable rates are different so that the interleaving and the puncturing are operatively independent of each other.